# Appendix B. Additional robustness-check results

We present in this appendix results from supplementary analysis showing that our findings are somehow robust to different samples and specifications. The first subsection presents regression results considering just cells with no missing information on the number of buildings. The second subsection brings tables from regression in differences, predicting changes in the dependent variable.

## Results with no missing information on the number of buildings

**Table B1.** Results for 1881–2013 including only grid cells that have non-missing information on the number of buildings with more than 3 floors

| | Predicting Urban Rate (Model 1) | | Predicting Nº Buildings (Model 2) | | Predicting Road Network Length (Model 3) | | Predicting Transit Network Length (Model 4) | |
|---|---|---|---|---|---|---|---|---|
| Variables | Mean | P-value | Mean | P-value | Mean | P-value | Mean | P-value |
| Constant | 0.1128 (0.0152) | 0.0000 *** | 41.3937 (7.6903) | 0.0000 *** | 0.8095 (0.0927) | 0.0000 *** | 1.7360 (0.3112) | 0.0000 *** |
| Lagged Predicted Variable (t-1) | 0.8097 (0.013) | 0.0000 *** | 1.0532 (0.0109) | 0.0000 *** | 0.9434 (0.011) | 0.0000 *** | 1.1046 (0.0097) | 0.0000 *** |
| Δ Urban Rate (t-1 - t-2) | - | - | -11.397 (16.3722) | 0.7580 | 1.5705 (0.1837) | 0.0000 *** | 0.2173 (0.6166) | 0.3632 |
| Δ Neighbor Urban Rate (t-1 - t-2) | 0.1935 (0.0239) | 0.0000 *** | -84.912 (18.9204) | 0.9999 | 0.3054 (0.2207) | 0.0839 * | 0.2343 (0.7323) | 0.7292 |
| Δ Nº Buildings (t-1 - t-2) | 0.0000 (0.0001) | 0.1868 | - | - | 0.0001 (0.0003) | 0.4325 | -0.0053 (0.0013) | 0.9999 |
| Δ Neighbor Nº Buildings (t-1 - t-2) | 0.0000 (0.0000) | 0.8023 | 0.1994 (0.0173) | 0.0000 *** | -0.0003 (0.0002) | 0.9278 | -0.0004 (0.0008) | 0.6914 |
| Δ Road Network Length (t-1 - t-2) | 0.0096 (0.0039) | 0.0064 *** | -1.053 (2.1213) | 0.6914 | - | - | 0.0843 (0.0797) | 0.1446 |
| Δ Neighbor Road Network Length (t-1 - t-2) | 0.0238 (0.0049) | 0.0000 *** | -10.197 (2.7767) | 0.9999 | 0.0927 (0.0266) | 0.0002 *** | -0.0666 (0.1) | 0.7485 |
| Δ Mass Transit Network Length (t-1 - t-2) | -0.0015 (0.0013) | 0.8749 | 9.125 (0.7332) | 0.0000 *** | 0.0045 (0.0083) | 0.2946 | - | - |
| Δ Neighbor Mass Transit Network Length (t-1 - t-2) | -0.0002 (0.0009) | 0.5948 | -0.3686 (0.5077) | 0.7673 | 0.000 (0.0057) | 0.5000 | 0.0141 (0.0166) | 0.1977 |
| Δ Predicted Variable in the whole City (t - t-1) | 1.3806 (0.0661) | 0.0000 *** | 0.0044 (0.0004) | 0.0000 *** | 0.0025 (0.0002) | 0.0000 *** | 0.0030 (0.0005) | 0.0000 *** |
| Distance to CBD | -0.005 (0.0007) | 0.0000 *** | -2829.3291 (390.4974) | 0.0000 *** | -44.9135 (4.435) | 0.0000 *** | -100.1677 (14.5089) | 0.0000 *** |
| Terrain roughness | -0.0013 (0.0004) | 0.0021 *** | -0.1119 (0.2258) | 0.6203 | -0.0076 (0.0026) | 0.0031 *** | -0.0059 (0.0085) | 0.4878 |
| Land-use restrictions | -0.0601 (0.029) | 0.0385 ** | -23.5465 (15.92) | 0.1393 | 0.3640 (0.1799) | 0.0431 ** | -1.2378 (0.6048) | 0.0409 ** |
| Nº Observations | 1827 | | 1827 | | 1827 | | 1827 | |
| $R^2$ | 0.8348 | | 0.9133 | | 0.9025 | | 0.9394 | |

Notes: Significance threshold: * 0.1, ** 0.05, *** 0.01. Standard deviation calculated as panel-corrected SE. t-1 indicates 13-year to 18-year lag. Balanced panel dataset with 261 grid cells (2km). Cells with urbanization rate and number of buildings equal to zero in the end-period were not included in the regression.

**Table B2.** Elasticities from models 1 to 4 for 1881–2013 including only grid cells that have non-missing information on the number of buildings with more than 3 floors

| Elasticities - Predicting Urban Expansion Rate Model 1 | | |
|---|---|---|
| Δ Road Network Length | 0.0006 | *** |
| Δ Neigh. Road Network Length | 0.0015 | *** |
| Δ Mass Transit Network Length | - | |
| Δ Neigh. Mass Transit Network Length | - | |

| Elasticities - Predicting Road Network Length Model 3 | | |
|---|---|---|
| Δ Urban Rate | 0.0024 | *** |
| Δ Neighbor Urban Rate | 0.0004 | * |
| Δ Nº Buildings | - | |
| Δ Neighbor Nº Buildings | - | |

| Elasticities - Predicting Nº Buildings Model 2 | | |
|---|---|---|
| Δ Road Network Length | - | |
| Δ Neigh. Road Network Length | - | |
| Δ Mass Transit Network Length | 0.004 | *** |
| Δ Neigh. Mass Transit Network Length | - | |

| Elasticities - Predicting Mass Transit Network Length Model 4 | |
|---|---|
| Δ Urban Rate | - |
| Δ Neighbor Urban Rate | - |
| Δ Nº Buildings | - |
| Δ Neighbor Nº Buildings | - |

Notes: Significance threshold: * 0.1, ** 0.05, *** 0.01. Balanced panel dataset with 261 grid cells (2km). Cells with urbanization rate and number of buildings equal to zero in the end-period were not included in the regression.

**Table B3.** Results for 1881–1929 including only grid cells that have non-missing information on the number of buildings with more than 3 floors

| | Predicting Urban Rate (Model 1.1) | | Predicting Nº Buildings (Model 2.1) | | Predicting Road Network Length (Model 3.1) | | Predicting Transit Network Length (Model 4.1) | |
|---|---|---|---|---|---|---|---|---|
| Variables | Mean | P-value | Mean | P-value | Mean | P-value | Mean | P-value |
| Constant | 0.1092 (0.0821) | 0.1837 | -0.0835 (0.0434) | 0.0550 * | 0.0579 (0.0523) | 0.2683 | 0.3414 (0.3085) | 0.2685 |
| Lagged Predicted Variable (t-1) | 0.8053 (0.1167) | 0.0000 *** | 1.3327 (0.0224) | 0.0000 *** | 0.9929 (0.0828) | 0.0000 *** | 1.0636 (0.189) | 0.0000 *** |
| Δ Urban Rate (t-1 - t-2) | - | - | -0.0285 (0.0748) | 0.6480 | 0.0899 (0.0313) | 0.0020 *** | 0.3794 (0.1831) | 0.0192 ** |
| Δ Neighbor Urban Rate (t-1 - t-2) | 0.2987 (0.1417) | 0.0176 ** | 0.0738 (0.0914) | 0.2090 | 0.0396 (0.0481) | 0.2053 | -0.3151 (0.4348) | 0.7657 |
| Δ Nº Buildings (t-1 - t-2) | -0.0037 (0.0064) | 0.7181 | - | - | -0.0045 (0.0118) | 0.6474 | -0.0471 (0.1809) | 0.6028 |
| Δ Neighbor Nº Buildings (t-1 - t-2) | -0.0107 (0.0145) | 0.7695 | 0.2569 (0.0219) | 0.0000 *** | -0.012 (0.012) | 0.8406 | -0.0753 (0.3449) | 0.5864 |
| Δ Road Network Length (t-1 - t-2) | 0.0923 (0.025) | 0.0001 *** | -0.1581 (0.0657) | 0.9920 | - | - | -0.046 (0.0777) | 0.7233 |
| Δ Neighbor Road Network Length (t-1 - t-2) | 0.0308 (0.0473) | 0.2578 | 0.1046 (0.0935) | 0.1314 | -0.0013 (0.1071) | 0.5049 | -0.1673 (0.2173) | 0.7793 |
| Δ Mass Transit Network Length (t-1 - t-2) | 0.0067 (0.0036) | 0.0321 ** | 0.0447 (0.0176) | 0.0056 *** | -0.0108 (0.0077) | 0.9211 | - | - |
| Δ Neighbor Mass Transit Network Length (t-1 - t-2) | 0.0014 (0.0087) | 0.4352 | 0.1485 (0.0158) | 0.0000 *** | 0.0188 (0.0102) | 0.0331 *** | 0.1738 (0.1416) | 0.1098 |
| Δ Predicted Variable in the whole City (t - t-1) | 1.4001 (0.2911) | 0.0000 *** | 0.0008 (0.0005) | 0.0960 * | 0.0012 (0.0002) | 0.0000 *** | 0.0022 (0.0005) | 0.0000 *** |
| Distance to CBD | -0.016 (0.0083) | 0.0530 * | 0.0065 (0.0048) | 0.1820 | -0.0087 (0.0051) | 0.0893 ** | -0.0665 (0.0393) | 0.0908 * |
| Terrain roughness | -0.0006 (0.0008) | 0.4667 | 0.0003 (0.0026) | 0.9210 | 0.0009 (0.0021) | 0.6880 | 0.005 (0.0084) | 0.5494 |
| Nº Observations | 2100 | | 2100 | | 2100 | | 2100 | |
| $R^2$ | 0.7772 | | 0.6878 | | 0.8137 | | 0.8639 | |

Notes: Significance threshold: * 0.1, ** 0.05, *** 0.01. Standard deviation calculated as panel-corrected SE. t-1 indicates 7-year to 9-year lag. Balanced panel dataset with 420 grid cells (0.75km). Cells with urbanization rate equal to zero in the end-period were not included in the regression, but due to the reduced number of existing buildings in 1929, grid cells with zero number of buildings were kept in the regression.

**Table B4.** Elasticities from Models 1.1 to 4.1 for 1881–1929 including only grid cells that have non-missing information on the number of buildings with more than 3 floors

| Elasticities - Predicting Urban Rate Model 1.1 | | |
|---|---|---|
| Δ Road Network Length | 0.0007 | *** |
| Δ Neigh. Road Network Length | - | |
| Δ Mass Transit Network Length | 0.0001 | ** |
| Δ Neigh. Mass Transit Network Length | - | |

| Elasticities - Predicting Road Network Length Model 3.1 | | |
|---|---|---|
| Δ Urban Rate | 0.0011 | *** |
| Δ Neighbor Urban Rate | - | |
| Δ Nº Buildings | - | |
| Δ Neighbor Nº Buildings | - | |

| Elasticities - Predicting Nº Buildings Model 2.1 | | |
|---|---|---|
| Δ Road Network Length | - | |
| Δ Neigh. Road Network Length | - | |
| Δ Mass Transit Network Length | 0.0037 | *** |
| Δ Neigh. Mass Transit Network Length | 0.0125 | *** |

| Elasticities - Predicting Mass Transit Network Length Model 4.1 | | |
|---|---|---|
| Δ Urban Rate | 0.0018 | ** |
| Δ Neighbor Urban Rate | - | |
| Δ Nº Buildings | - | |
| Δ Neighbor Nº Buildings | - | |

Notes: Significance threshold: * 0.1, ** 0.05, *** 0.01. Balanced panel dataset with 420 grid cells (0.75km). Cells with urbanization rate equal to zero in the end-period were not included in the regression.

**Table B5.** Results for 1929-1974 including only grid cells that have non-missing information on the number of buildings with more than 3 floors

| | Predicting Urban Rate (Model 1.2) | | Predicting Nº Buildings (Model 2.2) | | Predicting Road Network Length (Model 3.2) | | Predicting Mass Transit Network Length (Model 4.2) | |
|---|---|---|---|---|---|---|---|---|
| Variables | Mean | P-value | Mean | P-value | Mean | P-value | Mean | P-value |
| Constant | 0.2343 (0.0985) | 0.0175 ** | 3.422 (7.2737) | 0.6381 | 0.4540 (0.165) | 0.0060 *** | 0.2599 (0.2055) | 0.2062 |
| Lagged Predicted Variable (t-1) | 0.7526 (0.081) | 0.0000 *** | 1.5736 (0.1002) | 0.0000 *** | 0.9506 (0.0466) | 0.0000 *** | 1.0779 (0.0354) | 0.0000 *** |
| Δ Urban Rate (t-1 - t-2) | - | - | -1.9185 (3.2232) | 0.7241 | 0.2200 (0.1043) | 0.0175 *** | -0.1209 (0.1129) | 0.8578 |
| Δ Neighbor Urban Rate (t-1 - t-2) | 0.0155 (0.1529) | 0.4596 | -1.3297 (7.1084) | 0.5742 | -0.3307 (0.1192) | 0.9972 | 0.0994 (0.1405) | 0.2397 |
| Δ Nº Buildings (t-1 - t-2) | 0.0000 (0.0001) | 0.5028 | - | - | -0.0001 (0.001) | 0.5342 | -0.0164 (0.0106) | 0.9395 |
| Δ Neighbor Nº Buildings (t-1 - t-2) | -0.0002 (0.0003) | 0.7793 | 0.0444 (0.193) | 0.4089 | -0.0004 (0.0009) | 0.6715 | -0.0034 (0.0037) | 0.8153 |
| Δ Road Network Length (t-1 - t-2) | 0.0025 (0.0072) | 0.3648 | -1.6011 (1.1927) | 0.9102 | - | - | 0.0261 (0.0252) | 0.1502 |
| Δ Neighbor Road Network Length (t-1 - t-2) | -0.0042 (0.024) | 0.5690 | -3.3872 (2.8738) | 0.8806 | -0.1407 (0.118) | 0.8833 | -0.1825 (0.071) | 0.9949 |
| Δ Mass Transit Network Length (t-1 - t-2) | 0.0003 (0.0029) | 0.4603 | 3.9533 (4.3677) | 0.1828 | -0.009 (0.0153) | 0.7225 | - | - |
| Δ Neighbor Mass Transit Network Length (t-1 - t-2) | -0.0062 (0.0049) | 0.8993 | -1.2885 (3.7544) | 0.6343 | -0.0091 (0.0155) | 0.7218 | 0.2164 (0.1235) | 0.0400 ** |
| Δ Predicted Variable in the whole City (t - t-1) | 1.3617 (0.2505) | 0.0000 *** | 0.0025 (0.0004) | 0.0000 *** | 0.0034 (0.0005) | 0.0000 *** | 0.0001 (0.0004) | 0.7518 |
| Distance to CBD | -0.0072 (0.0051) | 0.1629 | -1.1041 (0.614) | 0.0723 * | -0.0197 (0.009) | 0.0289 *** | -0.0178 (0.011) | 0.1076 |
| Terrain roughness | -0.0007 (0.0009) | 0.3982 | 0.3775 (0.3369) | 0.2628 | -0.0131 (0.0037) | 0.0004 *** | 0.0039 (0.0054) | 0.4660 |
| Land-use restrictions | -0.0338 (0.043) | 0.4319 | -0.7105 (2.9334) | 0.8087 | 0.352 (0.1604) | 0.0284 *** | -0.1085 (0.1065) | 0.3083 |
| Nº Observations | 1500 | | 1500 | | 1500 | | 1500 | |
| $R^2$ | 0.7554 | | 0.9520 | | 0.8853 | | 0.9923 | |

Notes: Significance threshold: * 0.1, ** 0.05, *** 0.01. Standard deviation calculated as panel-corrected SE. t-1 indicates 5-year to 8-year lag. Balanced panel dataset with 250 grid cells (1.5km). Cells with urbanization rate and number of buildings equal to zero in the end-period were not included in the regression.

**Table B6.** Elasticities, from Models 1.2 to 4.2 for 1929-1974 including only grid cells that have non-missing information on the number of buildings with more than 3 floors

| Elasticities - Predicting Urban Rate<br>Model 1.2 | | | Elasticities - Predicting Road Network Length<br>Model 3.2 | | |
|---|---|---|---|---|---|
| Δ Road Network Length | - | | Δ Urban Rate | 0.0007 | *** |
| Δ Neigh. Road Network Length | - | | Δ Neighbor Urban Rate | - | |
| Δ Mass Transit Network Length | - | | Δ Nº Buildings | - | |
| Δ Neigh. Mass Transit Network Length | | | | | |

| Elasticities - Predicting Nº Buildings<br>Model 2.2 | | | Elasticities - Predicting Mass Transit Network Length<br>Model 4.2 | | |
|---|---|---|---|---|---|
| Δ Road Network Length | - | | Δ Urban Rate | - | |
| Δ Neigh. Road Network Length | - | | Δ Neighbor Urban Rate | - | |
| Δ Mass Transit Network Length | - | | Δ Nº Buildings | - | |
| Δ Neigh. Mass Transit Network Length | - | | Δ Neighbor Nº Buildings | - | |

Notes: Significance threshold: * 0.1, ** 0.05, *** 0.01. Balanced panel dataset with 250 grid cells (1.5km). Cells with urbanization rate and number of buildings equal to zero in the end-period were not included in the regression.

**Table B7.** Results for 1974–2013 including only grid cells that have non-missing information on the number of buildings with more than 3 floors

| | Predicting Urban Rate (Model 1.3) | | Predicting Nº Buildings (Model 2.3) | | Predicting Road Network Length (Model 3.3) | | Predicting Mass Transit Network Length (Model 4.3) | |
|---|---|---|---|---|---|---|---|---|
| Variables | Mean | P-value | Mean | P-value | Mean | P-value | Mean | P-value |
| Constant | 0.0168 (0.0131) | 0.1982 | 2.2447 (3.0138) | 0.4565 | 0.0729 (0.139) | 0.5997 | -0.0389 (0.1178) | 0.7414 |
| Lagged Predicted Variable (t-1) | 0.9698 (0.0123) | 0.0000 *** | 1.018 (0.0038) | 0.0000 *** | 0.994 (0.0132) | 0.0000 *** | 1.0084 (0.0038) | 0.0000 *** |
| Δ Urban Rate (t-1 - t-2) | - | - | 32.5197 (16.4173) | 0.0239 ** | 0.674 (0.2283) | 0.0016 *** | -0.7876 (0.348) | 0.9881 |
| Δ Neighbor Urban Rate (t-1 - t-2) | 0.0692 (0.1116) | 0.2676 | -17.3823 (28.0938) | 0.7319 | 0.1418 (0.485) | 0.3850 | -0.9371 (0.6306) | 0.9313 |
| Δ Nº Buildings (t-1 - t-2) | 0.0000 (0.0001) | 0.3283 | - | - | 0.0003 (0.0006) | 0.3096 | 0.0018 (0.0015) | 0.1037 |
| Δ Neighbor Nº Buildings (t-1 - t-2) | -0.0001 (0.0001) | 0.9558 | 0.2636 (0.0574) | 0.0000 *** | -0.0007 (0.0005) | 0.9191 | 0.0012 (0.0017) | 0.2414 |
| Δ Road Network Length (t-1 - t-2) | 0.0021 (0.0012) | 0.0393 *** | -0.1315 (0.8377) | 0.5624 | - | - | -0.0058 (0.0437) | 0.5529 |
| Δ Neighbor Road Network Length (t-1 - t-2) | 0.0055 (0.0022) | 0.0061 *** | -1.3134 (1.2854) | 0.8465 | -0.0162 (0.059) | 0.6080 | 0.0522 (0.0393) | 0.0923 * |
| Δ Mass Transit Network Length (t-1 - t-2) | 0.0005 (0.0009) | 0.2876 | -1.6735 (0.944) | 0.9618 | 0.0182 (0.0191) | 0.1700 | - | - |
| Δ Neighbor Mass Transit Network Length (t-1 - t-2) | 0.0010 (0.0013) | 0.2249 | 1.1287 (1.0404) | 0.1391 | -0.0167 (0.0185) | 0.8175 | -0.0385 (0.0895) | 0.6663 |
| Δ Predicted Variable in the whole City (t - t-1) | 1.0081 (0.1199) | 0.0000 *** | 0.0034 (0.0005) | 0.0000 *** | 0.0028 (0.0005) | 0.0000 *** | 0.0039 (0.0004) | 0.0000 *** |
| Distance to CBD | 0.0003 (0.0004) | 0.5133 | -0.5712 (0.1112) | 0.0000 *** | -0.0026 (0.0044) | 0.5490 | -0.0005 (0.0044) | 0.9141 |
| Terrain roughness | -0.0001 (0.0001) | 0.3834 | -0.0145 (0.0393) | 0.7118 | 0.0003 (0.0017) | 0.8388 | -0.0016 (0.0015) | 0.2916 |
| Land-use restrictions | -0.0004 (0.009) | 0.9606 | -13.599 (2.7389) | 0.0000 *** | -0.0216 (0.0648) | 0.7391 | 0.1361 (0.0781) | 0.0815 |
| Nº Observations | 1566 | | 1566 | | 1566 | | 1827 | |
| $R^2$ | 0.9846 | | 0.9983 | | 0.9860 | | 0.9394 | |

Notes: Significance threshold: * 0.1, ** 0.05, *** 0.01. Standard deviation calculated as panel-corrected SE. t-1 indicates 5-year to 7-year lag. Balanced panel dataset with 261 grid cells (2km). Cells with urbanization rate and number of buildings equal to zero in the end-period were not included in the regression.

**Table B8.** Elasticities, from Models 1.3 to 4.3 for 1974–2013 including only grid cells that have non-missing information on the number of buildings with more than 3 floors

| Elasticities - Predicting Urban Rate Model 1.3 | | |
|---|---|---|
| Δ Road Network Length | 0.0001 | *** |
| Δ Neigh. Road Network Length | 0.0003 | *** |
| Δ Mass Transit Network Length | - | |
| Δ Neigh. Mass Transit Network Length | - | |

| Elasticities - Predicting Road Network Length Model 3.3 | | |
|---|---|---|
| Δ Urban Rate | 0.0009 | *** |
| Δ Neighbor Urban Rate | - | |
| Δ Nº Buildings | - | |
| Δ Neighbor Nº Buildings | - | |

| Elasticities - Predicting Nº Buildings Model 2.3 | | |
|---|---|---|
| Δ Road Network Length | - | |
| Δ Neigh. Road Network Length | - | |
| Δ Mass Transit Network Length | - | |
| Δ Neigh. Mass Transit Network Length | - | |
| Δ Urban Rate | 0.0013 | ** |

| Elasticities - Predicting Mass Transit Network Length Model 4.3 | |
|---|---|
| Δ Urban Rate | - |
| Δ Neighbor Urban Rate | - |
| Δ Nº Buildings | - |
| Δ Neighbor Nº Buildings | - |

Notes: Significance threshold: * 0.1, ** 0.05, *** 0.01. Balanced panel dataset with 261 grid cells (2km). Cells with urbanization rate and number of buildings equal to zero in the end-period were not included in the regression.

## Results predicting changes in the dependent variable

**Table B9.** Results for 1881–2013 predicting changes in the dependent variable including only grid cells that have non-missing information on the number of buildings with more than 3 floors

| | Predicting Changes in Urban Rate (Model 1) | | Predicting Changes in Nº Buildings (Model 2) | | Predicting Changes in Road Network Length (Model 3) | | Predicting Changes in Transit Network Length (Model 4) | |
|---|---|---|---|---|---|---|---|---|
| Variables | Mean | P-value | Mean | P-value | Mean | P-value | Mean | P-value |
| Constant | 0.1128 (0.0485) | 0.0202 ** | 41.3937 (7.6903) | 0.0000 *** | 0.8095 (0.0927) | 0.0000 *** | 1.736 (0.3112) | 0.0000 *** |
| Lagged Predicted Variable (t-1) | -0.1903 (0.0635) | 0.0028 *** | 0.0532 (0.0109) | 0.0000 *** | -0.0566 (0.011) | 0.0000 *** | 0.1046 (0.0097) | 0.0000 *** |
| Δ Urban Rate (t-1 - t-2) | - | - | -11.397 (16.3722) | 0.7580 | 1.5705 (0.1837) | 0.0000 *** | 0.2173 (0.6166) | 0.3632 |
| Δ Neighbor Urban Rate (t-1 - t-2) | 0.1935 (0.1411) | 0.0851 * | -84.912 (18.9204) | 0.9998 | 0.3054 (0.2207) | 0.0839 * | 0.2343 (0.7323) | 0.7292 |
| Δ Nº Buildings (t-1 - t-2) | 0.000 (0.0001) | 0.2640 | - | - | 0.0001 (0.0003) | 0.4325 | -0.0053 (0.0013) | 0.9999 |
| Δ Neighbor Nº Buildings (t-1 - t-2) | 0.000 (0.0001) | 0.7184 | 0.1994 (0.0173) | 0.0000 *** | -0.0003 (0.0002) | 0.9278 | -0.0004 (0.0008) | 0.6914 |
| Δ Road Network Length (t-1 - t-2) | 0.0096 (0.0058) | 0.0476 ** | -1.053 (2.1213) | 0.6914 | - | - | 0.0843 (0.0797) | 0.1446 |
| Δ Neighbor Road Network Length (t-1 - t-2) | 0.0238 (0.0119) | 0.0229 ** | -10.197 (2.7767) | 0.9999 | 0.0927 (0.0266) | 0.0002 *** | -0.0666 (0.1000) | 0.7485 |
| Δ Mass Transit Network Length (t-1 - t-2) | -0.0015 (0.0014) | 0.8650 | 9.125 (0.7332) | 0.0000 *** | 0.0045 (0.0083) | 0.2946 | - | - |
| Δ Neighbor Mass Transit Network Length (t-1 - t-2) | -0.0002 (0.0014) | 0.5595 | -0.3686 (0.5077) | 0.7673 | 0 (0.0057) | 0.5000 | 0.0141 (0.0166) | 0.1977 |
| Δ Predicted Variable in the whole City (t - t-1) | 1.3806 (0.202) | 0.0000 *** | 0.0044 (0.0004) | 0.0000 *** | 0.0025 (0.0002) | 0.0000 *** | 0.003 (0.0005) | 0.0000 *** |
| Distance to CBD | -0.005 (0.0025) | 0.0436 ** | -2.8293 (0.3905) | 0.0000 *** | -0.0449 (0.0044) | 0.0000 *** | -0.1002 (0.0145) | 0.0000 *** |
| Terrain roughness | -0.0013 (0.0008) | 0.0932 * | -0.1119 (0.2258) | 0.6203 | -0.0076 (0.0026) | 0.0031 *** | -0.0059 (0.0085) | 0.4878 |
| Land-use restrictions | -0.0601 (0.0284) | 0.0342 ** | -23.5465 (15.92) | 0.1393 | 0.364 (0.1799) | 0.0431 ** | -1.2378 (0.6048) | 0.0409 ** |
| Nº Observations | 1827 | | 1827 | | 1827 | | 1827 | |
| $R^2$ | 0.3254 | | 0.3966 | | 0.3673 | | 0.1506 | |

Notes: Significance threshold: * 0.1, ** 0.05, *** 0.01. Standard deviation calculated as panel-corrected SE. t-1 indicates 13-year to 18-year lag. Balanced panel dataset with 261 grid cells (2km). Cells with urbanization rate and number of buildings equal to zero in the end-period were not included in the regression.